

2. The burner assembly of claim 1 wherein the coal tube is disposed generally parallel to the longitudinal axis of the burner assembly.

3. The burner assembly of claim 1 wherein the coal inlet is disposed substantially perpendicular to the coal tube.

4. The burner assembly of claim 1 wherein the second bluff body ring is disposed coaxially with the first bluff body ring.

5. The burner assembly of claim 1 wherein the second bluff body ring has a second bluff body ring diameter, the first bluff body ring has a first bluff body ring diameter and the second bluff body ring diameter is greater than the first bluff body ring diameter.

6. The burner assembly of claim 1 wherein the at least one flame bridge extends radially from the first bluff body ring toward the second bluff body ring.

7. The burner assembly of claim 1 wherein the at least one flame bridge is adapted to transfer the main flame from the first bluff body ring to the second bluff body ring.

8. The burner assembly of claim 1 further comprising a flame retention cone.

9. The burner assembly of claim 8 wherein the flame retention cone has a diverging angle of at least approximately 45° relative to the longitudinal axis of the burner assembly.

10. The burner assembly of claim 1 further comprising a cylindrical portion mounted in the burner end.

11. The burner assembly of claim 10 wherein the cylindrical portion includes a jog.

12. The burner assembly of claim 1 further comprising a liquid fuel guide tube, said liquid fuel guide tube being adapted to convey liquid fuel toward the burner end.

13. The burner assembly of claim 12 wherein the coal tube is disposed generally coaxially with the liquid fuel guide tube.

14. The burner assembly of claim 12 wherein an atomizing nozzle is provided on the liquid fuel guide tube in the burner end.

15. The burner assembly of claim 1 further comprising at least one gas injection nozzle mounted in the burner end, each of said at least one gas injection nozzles being adapted to direct gaseous fuel into the burner end.

16. The burner assembly of claim 1 further comprising at least one screen.

17. The burner assembly of claim 1 further comprising a coal tube band.

18. A burner assembly, said burner assembly comprising:

- (a) a housing having an air inlet;
- (b) a burner end having an opening;

(c) a longitudinal axis, said longitudinal axis extending generally from the air inlet toward the burner end;

(d) a motor;

(e) an impeller mounted in the housing, said impeller being in fluid communication with the air inlet, operatively connected to the motor and adapted to direct air from the air inlet towards the burner end;

(f) at least one gas injection nozzle mounted in the burner end, each of said at least one gas injection nozzles being adapted to direct gaseous fuel into the burner end;

(g) a liquid fuel guide tube, said liquid fuel guide tube being adapted to convey liquid fuel toward the burner end;

(h) a coal tube, said coal tube being adapted to convey coal toward the burner end;

(i) a coal inlet, said coal inlet being adapted to convey coal to the coal tube;

(j) a first bluff body ring, said first bluff body ring being mounted at the burner end;

(k) a second bluff body ring, said second bluff body ring being mounted at the burner end;

(l) a third bluff body ring, said third bluff body ring being mounted at the burner end;

(m) at least one flame bridge; said at least one flame bridge being disposed between the first bluff body ring and the second bluff body ring;

(n) a flame retention cone, said flame retention cone being mounted in the burner end;

(o) a cylindrical portion, said cylindrical portion being mounted in the burner end and having a jog;

(p) at least one screen, said at least one screen being mounted in the housing;

(q) a coal tube band; said coal tube band being mounted on the coal tube in the burner end; and

(r) an igniter mounted in the burner end, said igniter being adapted to ignite the air and fuel mixture in the burner end to produce a main flame;

wherein the burner assembly is adapted to selectively fire on gaseous fuel, liquid fuel, coal and any combination thereof.

19. The burner assembly of claim 18 wherein the coal inlet is disposed substantially perpendicular to the coal tube, and the coal tube is disposed substantially parallel to the longitudinal axis of the burner assembly.

20. The burner assembly of claim 18 wherein the at least one flame bridge extends radially from the first bluff body ring toward the second bluff body ring.

* * * * *